

# **1999 Toxics Release Inventory**

# **NORTH DAKOTA**

### Reported Releases and Waste Management Activities (in pounds)

|   | Original Industries | New Industries | Total      |
|---|---------------------|----------------|------------|
| On-site Releases                                    | 2,441,712           | 10,722,141     | 13,163,853 |
| Air Emissions                                       | 2,276,538           | 1,497,145      | 3,773,683  |
| Surface Water Discharges                            | 162,418             | 62,731         | 225,149    |
| Underground Injection Class I Wells                 | 0                   | 0              | 0          |
| Underground Injection Class II-V Wells              | 0                   | 0              | 0          |
| On-site Land Releases to RCRA Subtitle C Landfills  | 0                   | 0              | 0          |
| Other On-site Land Releases                         | 2,756               | 9,162,265      | 9,165,021  |
| Off-site Releases (Transfers Off-site to Disposal)* | 153,450             | 10,338,610     | 10,492,060 |
| Total On- and Off-site Releases                     | 2,595,162           | 21,060,751     | 23,655,913 |
| Recycled On-site                                    | 2,480               | 0              | 2,480      |
| Recycled Off-site                                   | 520,138             | 1,300          | 521,438    |
| Energy Recovery On-site                             | 0                   | 0              | 0          |
| Energy Recovery Off-site                            | 41,491              | 0              | 41,491     |
| Treated On-site                                     | 4,053,454           | 1,833,400      | 5,886,854  |
| Treated Off-site**                                  | 528,994             | 0              | 528,994    |
| Quantity Released On- and Off-site***               | 2,543,318           | 20,947,013     | 23,490,331 |
| Total Production-related Waste Managed              | 7,689,875           | 22,781,713     | 30,471,588 |
| Total Non-production-related Waste Managed          | 3                   | 5              | 8          |

#### Transfers Off-site for Further Waste Management/Disposal

| ·   | -         |            |            |
|---|-----------|------------|------------|
| Recycling   | 550,486   | 1,300      | 551,786    |
| Energy Recovery   | 65,892    | 0          | 65,892     |
| Treatment   | 1,696     | 0          | 1,696      |
| Publicly Owned Treatment Works (POTWs)                            | 562,563   | 0          | 562,563    |
| Metals and Metal Compounds*                                       | 286       | 0          | 286        |
| Non-metal TRI Chemicals**   | 562,277   | 0          | 562,277    |
| Other Off-site Transfers****                                      | 0         | 0          | 0          |
| Off-site Transfers to Disposal (not including metals to POTWs)    | 156,205   | 10,338,610 | 10,494,815 |
| Total Transfers Off-site for Further<br>Waste Management/Disposal | 1,336,842 | 10,339,910 | 11,676,752 |

- \* Transfers to POTWs of metals and metal compounds are included in off-site releases. Excludes transfer amounts sent for disposal to other TRI facilities reporting that amount released on-site.
- \*\* Transfers to POTWs of non-metals are included in treated off-site waste management activity.
- \*\*\* Excludes non-production-related releases; e.g. releases due to catastrophic events or remedial actions.
- \*\*\*\*Transfers reported without a valid waste management code.

#### For More Information . . .

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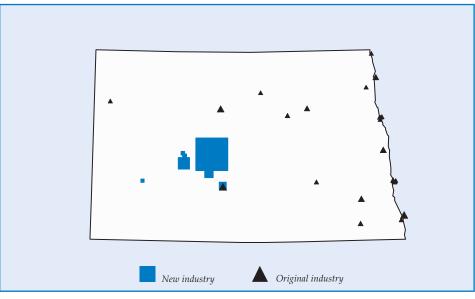
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The largest marker in the state map represents the largest facility for on-site releases in the state of North Dakota. All markers are proportionally-sized to represent the on-site releases at each facility within this state.

#### State/TRI Data

| Population       |                     |                | 633,666 |
|------------------|---------------------|----------------|---------|
| Square Miles     |                     |                | 68,994  |
| Total Facilities |                     |                | 44      |
| Total Forms      |                     |                | 171     |
| Form As          |                     |                | 24      |
|                  | Original Industries | New Industries | Total   |

|   | Original Industries | New Industries | Total      |
|---|---------------------|----------------|------------|
| National Rank for Total On- and Off-sit | e Releases*         |                |            |
| Rank                                    | 47                  | 28             | 40         |
| Pounds                                  | 2,595,162           | 21,060,751     | 23,655,913 |
| National Rank for Total On-site Release | es**                |                |            |
| Rank                                    | 47                  | 35             | 42         |
| Pounds                                  | 2,441,712           | 10,722,141     | 13,163,853 |
| National Rank for Total Releases within | State***            |                |            |
| Rank                                    | 47                  | 28             | 40         |
| Pounds                                  | 2,594,988           | 21,053,464     | 23,648,452 |
| National Rank for Production-related W  | aste Managed        |                |            |
| Rank                                    | 49                  | 34             | 46         |
| Pounds                                  | 7,689,875           | 22,781,713     | 30,471,588 |

- Includes transfers out-of-state for disposal. Excludes transfer amounts sent for disposal to other TRI facilities reporting that amount released on-site.
- \*\* Includes amounts released at the facility. Excludes amounts transferred to other sites.
- \*\*\* Excludes transfers for disposal sent out-of-state or sent to other TRI facilities within the state reporting that amount released on-site.

# **NORTH DAKOTA**

### On-site and Off-site Releases for Top Ten Chemicals Ranked on Total Releases in the State (Original Industries)

|           |                        |           | On-site R        | eleases     |                        | Off-site Releases        |                      | Off-sit             | te Transfers to Dispos | sal                   |
|-----------|------------------------|-----------|------------------|-------------|------------------------|--------------------------|----------------------|---------------------|------------------------|-----------------------|
| CAS       |                        | Air       | Surface<br>Water | Underground | On-site<br>Releases to | Transfers<br>Off-site to | Total<br>Releases in | Transferred<br>Into | Transferred<br>Within  | Transferred<br>Out of |
| Number    | Chemical               | Emissions | Discharges       | Injection   | Land                   | Disposal*                | the State**          | State               | State                  | State                 |
|           |                        | Pounds    | Pounds           | Pounds      | Pounds                 | Pounds                   | Pounds               | Pounds              | Pounds                 | Pounds                |
| 7664-41-7 | Ammonia                | 783,195   | 15,546           | 0           | 750                    | 110                      | 799,601              | 0                   | 0                      | 110                   |
| 110-54-3  | n-Hexane               | 633,600   | 0                | 0           | 0                      | 0                        | 633,600              | 0                   | 0                      | 0                     |
| 100-42-5  | Styrene                | 197,872   | 5                | 0           | 0                      | 0                        | 197,877              | 0                   | 0                      | 0                     |
|           | Nitrate compounds      | 0         | 146,806          | 0           | 0                      | 0                        | 146,806              | 0                   | 0                      | 0                     |
|           | Glycol ethers          | 103,805   | 0                | 0           | 0                      | 0                        | 103,805              | 0                   | 0                      | 0                     |
| 78-93-3   | Methyl ethyl ketone    | 99,811    | 1                | 0           | 0                      | 0                        | 99,812               | 0                   | 0                      | 0                     |
| 1330-20-7 | Xylene (mixed isomers) | 73,758    | 0                | 0           | 0                      | 6                        | 73,764               | 0                   | 0                      | 6                     |
| 7664-39-3 | Hydrogen fluoride      | 71,500    | 0                | 0           | 0                      | 0                        | 71 <b>,</b> 500      | 0                   | 0                      | 0                     |
| 108-88-3  | Toluene                | 66,122    | 0                | 0           | 1                      | 3                        | 66,126               | 0                   | 0                      | 3                     |
| 115-07-1  | Propylene              | 61,000    | 0                | 0           | 0                      | 0                        | 61,000               | 0                   | 0                      | 0                     |

Excludes amounts transferred to other TRI facilities in the state reporting that amount released on-site.

### On-site and Off-site Releases for Top Ten Chemicals Ranked on Total Releases in the State (Seven New Industries)

|           |                     |           | On-site Re | eleases     |             | Off-site Releases |                  | Off-sit     | te Transfers to Dispos | al          |
|-----------|---------------------|-----------|------------|-------------|-------------|-------------------|------------------|-------------|------------------------|-------------|
|           |                     |           | Surface    |             | On-site     | Transfers         | Total            | Transferred | Transferred            | Transferred |
| CAS       |                     | Air       | Water      | Underground | Releases to | Off-site to       | Releases in      | Into        | Within                 | Out of      |
| Number    | Chemical            | Emissions | Discharges | Injection   | Land        | Disposal*         | the State**      | State       | State                  | State       |
|           |                     | Pounds    | Pounds     | Pounds      | Pounds      | Pounds            | Pounds           | Pounds      | Pounds                 | Pounds      |
|           | Barium compounds    | 38,649    | 24,750     | 0           | 6,510,000   | 8,134,600         | 14,707,999       | 0           | 8,127,900              | 6,700       |
|           | Manganese compounds | 14,521    | 16,410     | 0           | 1,421,700   | 1,308,808         | 2,761,439        | 0           | 1,308,288              | 520         |
| 7664-39-3 | Hydrogen fluoride   | 572,532   | 5          | 0           | 0           | 0                 | 572,537          | 0           | 0                      | 0           |
| 7664-93-9 | Sulfuric acid       | 507,770   | 0          | 0           | 0           | 0                 | 507 <i>,</i> 770 | 0           | 0                      | 0           |
|           | Arsenic compounds   | 6,457     | 9          | 0           | 148,740     | 206,388           | 361,594          | 0           | 206,382                | 6           |
| 7647-01-0 | Hydrochloric acid   | 327,864   | 5          | 0           | 0           | 0                 | 327,869          | 0           | 0                      | 0           |
| 7440-39-3 | Barium              | 3,108     | 0          | 0           | 290,000     | 4,300             | 297,408          | 0           | 4,300                  | 0           |
|           | Chromium compounds  | 4,484     | 271        | 0           | 105,100     | 183,104           | 292,959          | 0           | 183,104                | 0           |
|           | Copper compounds    | 654       | 20,761     | 0           | 108,400     | 163,061           | 292,876          | 0           | 163,022                | 39          |
|           | Antimony compounds  | 1,305     | 5          | 0           | 143,000     | 48,000            | 192,310          | 0           | 48,000                 | 0           |

Excludes amounts transferred to other TRI facilities in the state reporting that amount released on-site.

<sup>\*\*</sup> The chemical ranking is based on the amounts in this column.

<sup>\*</sup> Excludes amounts transferred to other TKI TACHINES IN U.S. SALES THE chemical ranking is based on the amounts in this column.

# **NORTH DAKOTA**

### On- and Off-site Releases for Top Ten Facilities Ranked on Total On-site Releases in the State (Original Industries)

|   | On-site Releases |                  |           |              |                    |                       |                  | Off-site Releases<br>(Transfers Off-site to Disposal) |              |
|---|------------------|------------------|-----------|--------------|--------------------|-----------------------|------------------|---|--------------|
|   |                  |                  | Undergrou | nd Injection | On-site Rel        | eases to Land         |                  |   |              |
|   | Air              | Surface<br>Water | Class I   | Class II-V   | RCRA<br>Subtitle C | Other<br>On-site Land | Total<br>On-site | Transferred   | Transferred  |
| Facility, City, County                        | Emissions        | Discharges       | Wells     | Wells        | Landfills          | Releases              | Releases*        | Within State  | Out of State |
|   | Pounds           | Pounds           | Pounds    | Pounds       | Pounds             | Pounds                | Pounds           | Pounds  | Pounds       |
| BP Amoco Mandan Refy., Mandan, Morton         | 404,072          | 20,535           | 0         | 0            | 0                  | 2,006                 | 426,613          | 46  | 4,865        |
| Minn-Dak Farmers Co-Op., Wahpeton, Richland   | 298,825          | 127,583          | 0         | 0            | 0                  | 0                     | 426,408          | 0   | 0            |
| ADM Processing, Velva, Mc Henry               | 340,000          | 0                | 0         | 0            | 0                  | 0                     | 340,000          | 0   | 0            |
| American Crystal Sugar Co., Hillsboro, Traill | 255,450          | 250              | 0         | 0            | 0                  | 0                     | 255,700          | 0   | 0            |
| ADM Northern Sun Div., Enderlin, Ransom       | 244,100          | 0                | 0         | 0            | 0                  | 0                     | 244,100          | 0   | 0            |
| American Crystal Sugar Co., Drayton, Pembina  | 208,230          | 14,000           | 0         | 0            | 0                  | 750                   | 222,980          | 0   | 0            |
| Nordic Fiberglass Inc., Devils Lake, Ramsey   | 159,588          | 0                | 0         | 0            | 0                  | 0                     | 159,588          | 0   | 0            |
| Melroe Co., Gwinner, Sargent                  | 102,755          | 0                | 0         | 0            | 0                  | 0                     | 102,755          | 24,106  | 0            |
| Sioux Mfg. Corp., Fort Totten, Benson         | 68,703           | 0                | 0         | 0            | 0                  | 0                     | 68,703           | 0   | 0            |
| Case Corp., Fargo, Cass                       | 50,460           | 45               | 0         | 0            | 0                  | 0                     | 50,505           | 1,127   | 0            |

<sup>\*</sup>The facility ranking is based on the amounts in this column; these quantities exclude transfers out of state.

### On- and Off-site Releases for Top Ten Facilities Ranked on Total On-site Releases in the State (Seven New Industries)

|  |           |            |           | Off-site R<br>(Transfers Off-si |             |               |           |              |              |
|--|-----------|------------|-----------|---------------------------------|-------------|---------------|-----------|--------------|--------------|
|  |           |            | Undergrou | nd Injection                    | On-site Rel | eases to Land |           |              |              |
|  |           | Surface    |           |                                 | RCRA        | Other         | Total     |              |              |
|  | Air       | Water      | Class I   | Class II-V                      | Subtitle C  | On-site Land  | On-site   | Transferred  | Transferred  |
| Facility, City, County                                     | Emissions | Discharges | Wells     | Wells                           | Landfills   | Releases      | Releases* | Within State | Out of State |
|  | Pounds    | Pounds     | Pounds    | Pounds                          | Pounds      | Pounds        | Pounds    | Pounds       | Pounds       |
| Great River Energy, Coal Creek Station, Underwood, Mc Lean | 627,525   | 1,515      | 0         | 0                               | 0           | 4,295,600     | 4,924,640 | 1,343,800    | 0            |
| Leland Olds Station, Stanton, Mercer                       | 137,769   | 1,401      | 0         | 0                               | 0           | 2,314,940     | 2,454,110 | 755,200      | 0            |
| Otter Tail Power Co. Coyote Station, Beulah, Mercer        | 35,610    | 0          | 0         | 0                               | 0           | 1,336,900     | 1,372,510 | 362,930      | 7,287        |
| Milton R. Young Station, Center, Oliver                    | 155,895   | 0          | 0         | 0                               | 0           | 747,600       | 903,495   | 2,815,779    | 0            |
| R.M. Heskett Station, Mandan, Morton                       | 323,607   | 5          | 0         | 0                               | 0           | 322,000       | 645,612   | 5,000        | 0            |
| Great River Energy Stanton Station, Stanton, Mercer        | 93,305    | 59,810     | 0         | 0                               | 0           | 0             | 153,115   | 754,614      | 0            |
| Antelope Valley Station, Beulah, Mercer                    | 122,512   | 0          | 0         | 0                               | 0           | 0             | 122,512   | 4,294,000    | 0            |
| Falkirk Mining Co., Underwood, Mc Lean                     | 0         | 0          | 0         | 0                               | 0           | 90,619        | 90,619    | 0            | 0            |
| Coteau Properties Co. Freedom Mine, Beulah, Mercer         | 0         | 0          | 0         | 0                               | 0           | 54,606        | 54,606    | 0            | 0            |
| HCI Dyce Chemical Inc., Dickinson, Stark                   | 922       | 0          | 0         | 0                               | 0           | 0             | 922       | 0            | 0            |

<sup>\*</sup>The facility ranking is based on the amounts in this column; these quantities exclude transfers out of state.

# **NORTH DAKOTA**

## Total Production-related Waste for Top Ten Facilities Ranked on Quantity Released On- and Off-site (Original Industries)

| Facility, City, County                             | <b>Recycled</b><br><b>On-site</b><br>Pounds | Recycled<br>Off-site<br>Pounds | Energy<br>Recovery<br>On-site<br>Pounds | Energy<br>Recovery<br>Off-site<br>Pounds | Treated On-site Pounds | Treated<br>Off-site<br>Pounds | Quantity<br>Released On-<br>and Off-site*<br>Pounds | Total Production- related Waste Managed Pounds | Total Non-<br>Production-<br>related Waste<br>Managed<br>Pounds |
|--|---|--------------------------------|---|--|------------------------|-------------------------------|---|--|---|
| BP Amoco Mandan Refy., Mandan, Morton              | 1,710                                       | 369                            | 0                                       | 4  | 1,052,000              | 171                           | 430,730   | 1,484,984                                      | 0   |
| Minn-Dak Farmers Co-Op., Wahpeton, Richland        | 0   | 0                              | 0                                       | 0  | 2,617,519              | 0                             | 426,408   | 3,043,927                                      | 0   |
| ADM Processing, Velva, Mc Henry                    | 0   | 0                              | 0                                       | 0  | 0                      | 0                             | 340,000   | 340,000  | 0   |
| American Crystal Sugar Co., Hillsboro, Traill      | 0   | 0                              | 0                                       | 0  | 255,200                | 0                             | 255,200   | 510,400  | 0   |
| ADM Northern Sun Div., Enderlin, Ransom            | 0   | 0                              | 0                                       | 0  | 0                      | 410                           | 244,100   | 244,510  | 0   |
| American Crystal Sugar Co., Drayton, Pembina       | 0   | 0                              | 0                                       | 0  | 100,706                | 0                             | 221,480   | 322,186  | 0   |
| Nordic Fiberglass Inc., Devils Lake, Ramsey        | 0   | 0                              | 0                                       | 0  | 0                      | 0                             | 159,588   | 159,588  | 1   |
| TIC United Corp. Wil-Rich Div., Wahpeton, Richland | 0   | 110,210                        | 0                                       | 1,530                                    | 0                      | 0                             | 143,806   | 255,546  | 0   |
| Melroe Co., Gwinner, Sargent                       | 0   | 0                              | 0                                       | 0  | 0                      | 102,505                       | 102,749   | 205,254  | 0   |
| Cass Clay Creamery Inc., Fargo, Cass               | 0   | 0                              | 0                                       | 0  | 0                      | 0                             | 64,000  | 64,000   | 0   |

<sup>\*</sup>The facility ranking is based on the amounts in this column; these quantities exclude non-production-related releases.

### Total Production-related Waste for Top Ten Facilities Ranked on Quantity Released On- and Off-site (Seven New Industries)

| Facility, City, County                                     | <b>Recycled</b><br><b>On-site</b><br>Pounds | Recycled<br>Off-site<br>Pounds | Energy<br>Recovery<br>On-site<br>Pounds | Energy<br>Recovery<br>Off-site<br>Pounds | Treated On-site Pounds | Treated<br>Off-site<br>Pounds | Quantity<br>Released On-<br>and Off-site*<br>Pounds | Total<br>Production-<br>related Waste<br>Managed<br>Pounds | Total Non-<br>Production-<br>related Waste<br>Managed<br>Pounds |
|--|---|--------------------------------|---|--|------------------------|-------------------------------|---|--|---|
| Great River Energy, Coal Creek Station, Underwood, Mc Lean | 0   | 0                              | 0                                       | 0  | 202,400                | 0                             | 6,259,400   | 6,461,800  | 0   |
| Antelope Valley Station, Beulah, Mercer                    | 0   | 0                              | 0                                       | 0  | 0                      | 0                             | 4,409,100   | 4,409,100  | 0   |
| Milton R. Young Station, Center, Oliver                    | 0   | 0                              | 0                                       | 0  | 0                      | 0                             | 3,651,000   | 3,651,000  | 0   |
| Leland Olds Station, Stanton, Mercer                       | 0   | 0                              | 0                                       | 0  | 0                      | 0                             | 3,228,600   | 3,228,600  | 0   |
| Otter Tail Power Co. Coyote Station, Beulah, Mercer        | 0   | 0                              | 0                                       | 0  | 1,054,000              | 0                             | 1,689,170   | 2,743,170  | 0   |
| Great River Energy Stanton Station, Stanton, Mercer        | 0   | 0                              | 0                                       | 0  | 0                      | 0                             | 908,500   | 908,500  | 0   |
| R.M. Heskett Station, Mandan, Morton                       | 0   | 1,300                          | 0                                       | 0  | 577,000                | 0                             | 655,096   | 1,233,396  | 5   |
| Falkirk Mining Co., Underwood, Mc Lean                     | 0   | 0                              | 0                                       | 0  | 0                      | 0                             | 90,619  | 90,619   | 0   |
| Coteau Properties Co. Freedom Mine, Beulah, Mercer         | 0   | 0                              | 0                                       | 0  | 0                      | 0                             | 54,606  | 54,606   | 0   |
| HCI Dyce Chemical Inc., Dickinson, Stark                   | 0   | 0                              | 0                                       | 0  | 0                      | 0                             | 922   | 922  | 0   |

<sup>\*</sup>The facility ranking is based on the amounts in this column; these quantities exclude non-production-related releases.